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INTER - OFFICE CORRESPONDENCE

Richmond, Virginia

To: . Dr. Jane Y. Lewis

Date: January 9, 1990

From: . Barbara T. Joyner

Subject: . Accomplishments for 1989

I. METHOD DEVELOPMENT AND IMPROVEMENT

A. Filtrona 20-port CO Smoking Machine

Objective: To have the CO smoking machine fully operational and optimized for the analyses of TPM, CO and puff count.

Status: The Filtrona CO smoking machine was installed and is now fully operational. Mechanical problems with inconsistent volumes and electronic problems with the central control board were resolved. Data collected from cigarettes smoked on the Filtrona were found statistically to be not different from data acquired from the Phipps & Bird 20-port CO smoking machine.

B. Peak Coal Temperature

Objective: To acquire a new thermographic analysis system. To establish a method for measuring peak coal temperature on the new apparatus.

Status: A thermographic image analysis system was purchased from AGEMA after extensive evaluation of competitive systems. This system consists of a scanning infrared camera, controller/microprocessor, PC and monitor, and a printer. The 10-port rotary head smoking machine and a triggering device are left from the old system and are incorporated into the new system. The new system provides the following advantages over the old apparatus:

- eliminates use of liquid N₂
- eliminates manual entry of² data
- automatic tracking of the coal as cigarettes burn
- lower frequency of calibration of scanner
- increased capability beyond measurement of peak coal temperature
- stand-alone system
- turnkey system

Installation of the system is complete. Monitor cigarettes have been smoked as a reference and compared to historical monitor data with similar means and standard deviations. Brand history is currently being acquired. Gail Yoss has been trained in the operation of the peak coal temperature apparatus. A method revision is in progress to be followed by a completion report.

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C. New Prototype 5-port Smoking Machine

Objective: To implement the new 5-port smoking machines (4) and DAS's. To coordinate with CAD and DED to accomplish this task.

Status: The prototype 5-port smoking machine has undergone several redesigns. The plexiglass hood was expanded to accommodate a physically larger smoking machine. The fan-cooled drive motor on the smoking machine was found to influence the air passage over the burning cigarettes. The housing for the electronics was removed from the hood and the fan is no longer used on a continuous basis.

The software for calculating CO and NO were written by CAD and the PC's were installed. Corrections in the software are being made by Woody Early of CAD. TPM runs using monitor cigarettes are being smoked and CO and NO data are being collected.

A Liebert air handling system was installed in the Gas Phase Laboratory in December. This system should stabilize temperature and humidity fluctuations within the smoking cubicles. Modification of the smoking hood now permits measurement of airflow.

D. Sugars and Alkaloids

Objective: To investigate an improvement over the current data system which has the capability of generating in-laboratory reports, thus eliminating the integrated interface controller (IIC) used for the sugars and alkaloids analysis.

Status: The Nelson® software system was evaluated as a stand-alone system for generating in-laboratory reports. This software is currently in use in ARD. Discussions have been held with Nick Latif of CAD who implemented the use of the Nelson system in ARD and recommends its installation.

II. LABORATORY MANAGEMENT

A. Supervision

Objective: To supervise laboratory personnel and coordinate workflow in the Special Smoking and Wet Chemistry Laboratories. To document performance, provide feedback and write annual performance appraisals of assigned personnel.

Status: My responsibilities in supervising the Special Smoking and Wet Chemistry Laboratories were changed in May. At that time, I became responsible for supervising the Gas Chromatography Laboratory. Duties resumed back to the Wet Chemistry and Special Smoking Laboratories in October. I documented performance, interacted closely in providing feedback to personnel in the laboratories to which I was assigned, and wrote annual performance appraisals for three technicians.

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B. Gas Phase Laboratory

3. Objective: To coordinate the modification of the cubicle housing the 20-port CO smoking machine to have optional ISO CO smoking conditions available.

Status: The controls to convert to ISO conditions were installed in January. ISO conditions still were not attainable. Discussions with Building Administration resulted in the installation of a Liebert air handling system (12/89). ISO conditions are now achievable.

C. Sugars and Alkaloids

Objective: To implement the use of control charts for monitor data in sugars and alkaloids.

Status: Ongoing. This effort was undertaken by Pamela Williams, a summer intern student, under the supervision of Jeff Sampson. I completed a short course on Statistical Process Control and gained a thorough understanding of this application.

D. Citrates Analysis

Objective: To incorporate the new method for determination of citrates in paper by ion chromatography into operation in the GC Laboratory.

Status: I received training from Garland Carter on the operation of the IC. Numerous mechanical, electronic and chemical problems with the IC system have been overcome. One remaining chemical interference is currently under investigation. The analytical method is under revision. Cindy Blair has been trained on the operation of the IC.

III. TECHNICAL ASSISTANCE

I provided training for Mr. Yap Swee Chye (Dept. of Scientific Services, Singapore) on the operation of the Filtrona 20-port smoking machine between August 22 and September 5.

The Analytical Methods used in the Gas Chromatography Laboratory have been updated to reflect the current procedure.

IV. SURVEYS

Freon in Filler

Status: No changes were noted in the previous survey for the analysis of Freon in filler of Philip Morris brands and competitors' brands. The results are reported in the August, 1989 monthly report.

V. PRESENTATIONS AND MEETINGS

1. Program Review presentations, January 19, April 13, July 11, October 12.
2. Evaluation of the Filtrona CO Smoking Machine, presentation, at CTSD Project Review, March 19, 1989.
3. AGEMA Thermal Imaging System Evaluation, presented at CTSD Project Review, December 7, 1989.

VI. CLASSES ATTENDED

1. Frontline Leadership
 - Fostering Improvement through Innovation, A&B, January 18.
 - Winning Support from Others - February 8.
 - Resolving Team Conflicts - March 1.
 - Confronting Issues with your Managers and Peers - March 17.
 - Building Constructive Relationships with your Manager - March 22.
2. Statistical Process Control (Barber & Assoc.) - June 5-8.
3. Affirmative Action - June 22
4. Performance Appraisal (Intermediate) - October 11.

VII. MEMOS

"Carbon Monoxide Delivery of Philip Morris Export Brands," memo to Dr. Jane Lewis, dated January 16, 1989.

"Gas Phase Delivery of Philip Morris and Competitive Brands," memo to Dr. Jane Lewis, dated January 20, 1989.

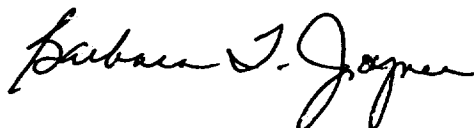
"Visit to Huguenot High School," memo to Murray Rosenberg, dated March 8, 1989.

"Evaluation of Filtrona CO Smoking Machine," memo to Dr. Jane Lewis, dated June 2, 1989.

"Menthol for Filler Analysis, Packed vs. Wide Bore Capillary," memo to Chris Kroustalis, dated June 6, 1989.

"Collaborative Menthol Study (QA/R&D)", memo to Dr. Jane Lewis, dated August 7, 1989.

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